

REMARKS/ARGUMENTS

A full copy of the Confectionary Products article is attached. Applicants acknowledge with appreciation the interview with the examiner on February 22, 2001.

Claims 66-69 and 71-84 have been cancelled without prejudice. Claim 70 has been amended without prejudice and new claims 89-110 have been added. Claims 66-84 were rejected under 35 U.S.C. §112, first paragraph for failure to provide enabling disclosure with respect to Yellow Bell. Applicants traverse. While now moot in view of the amendment, applicants note that Yellow Bell is a known variety. In fact, seeds for Yellow Bell are available from a public repository as indicated in the specification on page 15, lines 15-16. Applicants also traverse the assertion that Yellow Bell is essential to the invention. For example, claim 70 does not recite Yellow Bell. Finally, it should be clear that applicants did not genetically develop Yellow Bell.

In addition, prior to this response, claims 79, 82, and 84 were rejected under 35 U.S.C. §112, first paragraph, for failure to provide an enabling disclosure for making any and all cranberry food products. Applicants traverse but these issues as well are now moot in view of the amendments.

The pending independent claims are claims 70 and 101.

Claim 70 is directed to a blended juice including a juice component derived from cranberries that has a juice of the cyanin content of about 10 mg/100 ml or less and a component selected from another juice component, water, sweetener or acid.

Claim 101 is directed to a cranberry food product comprising a blended juice, including: a juice component derived from cranberries that has a juice anthocyanin content of about 10 mg/100 ml or less, another juice component, and a sweetener.

As discussed in the specification, an advantage of embodiments of the invention is that light colored cranberries can be used in new blended juice products. The blended juice products have an appealing flavor and can be variously colored or not colored because the light colored cranberry juice component does not have a high anthocyanin content, which is responsible for a deep red color in most cranberry products. In addition, the use of cranberries of low color adds value to the cranberry harvest, as described in the specification.

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Prior to this response, claim 70 was rejected as obvious over the Confectionary Products abstract in view of Ashurst. Applicants traverse.

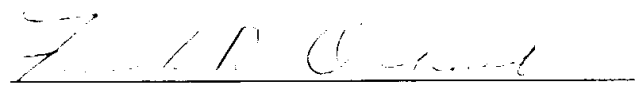
Confectionary Products is directed to a food coloring made using certain dark colored fruit, cranberries being one. It does not disclose or suggest a blended juice product. In addition, Confectionary Products is clearly seeking the darkest color fruits. For example, it emphasizes the importance of the "beautiful red color of these fruits" and producing "coloring foodstuffs ... this intensely colored." Applicants' claims 70 and 102, on the other hand, relate to a blended juice product including a juice component derived from cranberries that have a juice anthocyanin content of about 10 mg/100 ml or less -- a low anthocyanin content that yields a low color. As a result, Applicants submit that confectionary products does not suggest the invention as claimed. Indeed, insofar as using low color cranberry is concerned, Confectionary Products teaches away.

Nor does the Ashurst article suggest the invention. Ashurst does not mention cranberries at all. The analysis and cultivation of other fruits could not suggest Applicants' invention of claim 70 which relates to a blended juice including a juice component from cranberries having low color.

Applicant asks that all claims be allowed. Enclosed is a \$396 check for excess claim fees. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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"Version with markings to show changes made"

In the claims:

Claim 66-69, 71-84 has been cancelled.

Claim 70 has been amended as follows:

70. (Amended) A cranberry food product comprising [a predetermined blend of cranberries including] a blended juice, including
a juice component derived from cranberries that has a juice [cranberries having an] anthocyanin content of about 10 mg/100 ml or less and
a component selected from another juice component, water, sweetener or acid.

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INGREDIENTS AND COLOURINGS

Colour intensive juices from berries

The beautiful red colour of fruits such as strawberries and currants etc. is caused by the anthocyanine group of colouring matters, which are present in the fruit cells in dissolved form, explained Dr. Georg Buch at the start of his presentation. In the case of strawberries, for example, the relatively low content of colouring matter (on average 200 mg/kg) results in only a part of the light falling on it being absorbed. What is reflected appears to us as red. In the case of aronia berries or elderberries, on the other hand (over 8,000 mg/kg), the light is almost completely absorbed, due to the high concentration of colouring matter, and the fruit appears dark blue to black.

For colour-intensive juices, therefore, aronia, elderberry, blueberry, black currant and other dark-coloured fruits represent the first choice. Depending on the kind of fruit, ripeness and production method, the content of colouring matter and the colour intensity of the juices produced from the fruit will vary. A further criterion for producing colour-optimized juices is represented by the harvesting factors, such as the region, soil condition, time and climatic conditions. Regarding colour intensity, there is an optimum harvesting time, which can be delayed, however, depending on the region. The maximum feasible content of colouring matter that can be achieved, however, will vary from region to region, explained Dr. Buch.

The EU guidelines on colouring and the complete EU guidelines on additives are now finally available in Germany for implementation, commented Dr. Buch. According to the new guidelines, colouring foodstuffs will no longer be defined as colouring matter. In the case of colouring foodstuffs, the pigments

Dr Georg Buch of WILD presented a paper at the recent Heidelberger Seminar on natural colours derived from berries such as cranberries and aronia berries



Aronia berries a rich source of colour

present in the final products must be in a ratio similar to that of the raw material. The second requirement is that manufacturing methods may not selectively extract colouring matter. Leading Dr. Buch to conclude that the product of selective manufacturing methods is a food colour.

The selective methods available today, with which red colours, the anthocyanines, can be produced from berries and

chromatography, the selective affinity of colour molecules to chromatographically sensitive carrier substances is used. The absorbed colouring matter can be recovered with the aid of solvents. Together with the membrane technique, chromatography is the universal method used for the selection of specific ingredients.

Other techniques used to produce colouring foodstuffs, and thus intensely coloured

gentle process have enabled WILD to achieve an optimum colour in the final product. The brilliance is also comparable to that achieved previously with the synthetic colouring. In addition, due to the complex composition of the fruit colourings, the products look more natural than with synthetic colours. A clearly defined colour tone is achieved through the combination of different concentrates.

The content of colouring matter in intensely coloured juices varies between 15 g of anthocyanines per kg and 30 g per kg, depending on the content of sugar and colouring matter of the fruits. Even as juices they have a more intensive colour than colouring matter such as grape skin extracts. The natural colour strength of the juices is thus sufficient to give the products the desired appearance. In Dr. Buch's opinion, a further enhancement is also not what the user wants, since his mixers and metering systems are not designed for products with extremely high levels of concentration.

Concluding his presentation, Dr. Buch dealt briefly with the mechanisms of the prophylactic and therapeutic effects ascribed to the red concentrates in the case of heart and circulatory system disorders, thrombosis, inflammation and cancer. Research has shown these effects can be attributed to the colourings, i.e. the anthocyanines and also their earlier stages, procyanidines and flavonoides.

Nature itself, said Dr. Buch, summing up, offers many opportunities and potential for the development of new products. Based on the use of high quality raw materials and a processing method tailored to each product.

New and interesting WILD fruit concepts are the cranberry and aronia.

To date, there has been very limited use of fruit concentrates for colouring purposes

rectified were presented in detail by Dr. Buch.

1. Membrane techniques, such as nanofiltration and reverse osmosis, are methods with which substances are separated materially by means of organic and ceramic membranes. These methods are now well established in all sectors of industry.

2. Electrodialysis is a combination of membrane technology and electrochemical separation. Charged molecules, such as anthocyanines, may be obtained in this way. In Dr. Buch's view, however, the method has uses in medicine and biotechnology only.

3. In the case of

juice concentrates, mentioned by Dr. Buch were i) fruit juice technology covering the steps from the incoming consignment, slicing of the fruit, treatment of the must, filtration and concentration, and ii) aqueous extraction, insofar as the raw materials involved were foodstuffs.

To date, there has been very limited use of fruit concentrates for colouring purposes, added Dr. Buch. The few products that were available were often inferior to the standard colours in use in terms of heat and light stability, and frequently exhibited a lack of brilliance.

The choice of fruit, the combination of fruits and a